

SEQUENCE LISTING

<110> KUMAGAI, Monto H.
ROBERTS, Peter D.
VAEWHONGS, Andy A.

<120> CYTOPLASMIC GENE INHIBITION OR GENE
EXPRESSION IN TRANSFECTED PLANTS BY TOBRAVIRAL VECTOR

<130> 008010137CPUS04

<140> 09/771,035

<141> 2001-01-21

<150> 09/359,301

<151> 1999-07-21

<150> PCT/ US 00/20261

<151> 2000-07-21

<160> 58

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 6791

<212> DNA

<213> Tobravirus

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Revised

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<211> 133

<212> DNA

<213> Pea Early Browning Virus

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<211> 133

<212> DNA

<213> Pea Early Browning Virus

<400> 3

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Met
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Pro Gln Ile Gly Leu Val
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<212> PRT
<213> Pea Early Browning Virus

<400> 5
Met Pro Gln Ile Gly Leu Val
1 5

<210> 6
<211> 61
<212> DNA
<213> Nicotiana benthamiana

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<213> Nicotiana benthamiana

<220>
<221> CDS
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1 5

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<400> 8

Met Pro Gln Ile Gly Leu Val

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5

<210> 9

<211> 400

<212> DNA

<213> Arabidopsis thaliana

<400> 9

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<211> 400

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> misc_feature

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<210> 11

<211> 550

<212> DNA

<213> Arabidopsis thaliana

<400> 11

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<210> 12

<211> 550

<212> DNA

<213> *Oryza sativa*

<400> 12

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<210> 13

<211> 389

<212> DNA

<213> *Arabidopsis thaliana*

<400> 13

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<210> 14

<211> 391

<212> DNA

<213> *Nicotiana benthamiana*

<400> 14

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<212> DNA

<213> Pea Early Browning Virus

<220>

<221> CDS

<222> (120)...(140)

<400> 15

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<210> 17
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 caagttgtta tatttgtcaa gagtgttaagt cgggcagcac agctggataa attactagt 180
 gagtgttaatt ttccatctat ctgcatccac tctggcatga tcttgtcgca actgatctgg 240
 ttggtagggg cattgacatc gaaagggtca acattgttat taactatgac atgccagatt 300
 ctgcagacac gtatcttcac agagtgggtc gagctggtag gtttggaact aaaggccttg 360
 ccatcacatt tgtgtcatct gcatcagatt ctgatgttct aaatcaggtt caagaaaggt 420
 ttgaagtaga cataaaagag cttcctgagc agattgatac ttctacgtac atgccatctt 480
 agcgatctcg agagcttcca gcaatatcaa gtcattttaa agatgggggg aactgacagg 540
 tgttttgcta ttgttgtaa tttgaagaat tggggggctc ctactatatg ctcttgcaact 600
 gctgagctgc tgtacccttg ttgaactact ctttctctc cagtttaaga ggagcaccta 660
 agaaatg 667

<210> 19
 <211> 331
 <212> DNA
 <213> Nicotiana benthamiana

<400> 19
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 cattttgcca tctttcgcca gaagtatgat cgagtcttta tcaagtgaat aatgaacact 120
 ggtggtacaa tcattggacc aagatcgagt ctttatcaag tgaataaata aagtgaatg 180
 caacgcattg tatgaatcca gtagtaatta tcataattcg gattcaccaa ttagtgtaa 240
 ttctttctgt ggtgtttggt tttttcatat aaattttctt gctgttggtt tgatatgacg 300
 tttcaactca atccacgcaa atcatttcat t 331

<210> 20

<211> 649
 <212> DNA
 <213> Nicotiana benthamiana

<400> 20
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 caccacccag atccacacac acatgtgcta ctccaacttc aatgacatta tccactctat 120
 cattgacatg gatgctgatg tgatcacaat tgagaactca cgggccgatg agaagctcct 180
 ctacagttttc agggaggagg ttaagtatgg tgctggaatt ggccccggtg tctatgatat 240
 ccactcccct agaataccat caacggaaga gattgctgac agagttaaca agatgcttgc 300
 tgttcttgac accaacatct tgtgggtcaa cccagattgt ggtctcaaga ctgcgaagta 360
 cgctgaggta aagccagccc tcgagaacat ggtttctgct gccaaaggcca tccgcacca 420
 acttgccagc accaagtggag tcagatgaag gagtcgagac atatcaagat tccctttttc 480
 atgaaacaga aaattctatg ttgattttta atcatttgtg tggcaacaaa tattgttgtg 540
 taggttagct ctgcccgctg ggcattttct tcttgtgtt gagccatttc ctttctcgaa 600
 gaaaatatat ccaatgtatt atgatgtttt atgggtcgat tttggttac 649

<210> 21
 <211> 727
 <212> DNA
 <213> Nicotiana benthamiana

<400> 21
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 gaaaattcgc cctggaatat caaactctgt cattgagact cttacggaat gtaatgctgc 120
 tctttcacag caaaggaaaa gacgacagat accggcaaca ctggcctctg tggatgctct 180
 ggaaagatat acccaactga atagtattcc tcttcacaaa accaacaac ctggtatttt 240
 gtctttggat attcattatc ctaaggactt aattgctact ggtggtgttg attcaaatgc 300
 tgtgtgtctt gatcgtcctt caggacaaat catatcaaca ctaactggtc atttaaagag 360
 ggttaccagt gtaaaatttg cgtctgaggg tgaactagt gtctctggct cagcagataa 420
 gacagttcgt ttgtggcaaa gttctgaaaa tgggaactat gactgtaggc atgtcttgaa 480
 agatcataca gcagagggtgc aagctgtcac tgtccatgca accaataact attttgtgac 540
 tgcttctctt gatagcacat ggtgctttta tgatcttgct tctggcttat gccttgaca 600
 ggtggcagat gctacagaat ctgagggtta cacatccgca agctttccca ccctgattgg 660
 tcttgatcct tgggaacagg gacctcaggg tctctggttc agattttggg attgtaaaaa 720
 gtccagg 727

<210> 22
 <211> 720
 <212> DNA
 <213> Nicotiana benthamiana

<220>
 <221> misc_feature
 <222> (57)...(57)
 <223> n = A, T, C OR G

<400> 22
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 aaatcccgtt aacaagtatc atgggactcg ccacaatgtt ggttttgaaa tgattgatcg 120
 agttttctca gaggaggga tctgtattaa cacaatacag tcaaaggctt tgataggaat 180
 aggttcgata ggggagggtac ctgtggtatt ggcaaagcct caagcctaca tgaatttcag 240
 tggagaatcg gtcggaccac ttgctgcata ttatcagggt cctctgcgtc acatccttct 300
 ggtttatgat gagatgagct taccaaattg tgttctgagg cttcagccta aaggaggaca 360
 tggccagcat aatggggtga aaagtgtgat ggagcatttg gattgtcgca gggaatttcc 420
 ccgattttgc ataggcatag gaaatccacc tggaaactat gacatgaagg catatcttct 480
 acagaaattc agtgatacag agcgggaagca ggtggatgca gcacttaatc aaggagttga 540

tgctgtcagg acggtagtat tggaaggctt tggtagtaaa atttcacgat ttaatatagg	600
acagaaatac aagtatcaca aagtttgatg aaattgaatc taaaatgaag gtgtaaaaga	660
gcacgaagat ttactgataa cttcaagtct aaaaattaag ggtgtaaaaa gacccaagg	720

<210> 23
 <211> 61
 <212> DNA
 <213> Nicotiana benthamiana.

<400> 23	
ttaattaagc atgcggatcc cgtacgggcg taataacgct tacgtaggcg aggggtttta	60
c	61

<210> 24
 <211> 57
 <212> DNA
 <213> Nicotiana benthamiana

<400> 24	
atgaagagca tgctaatacg actcactata gataaaacat ttcaatcctt tgaacgc	57

<210> 25
 <211> 39
 <212> DNA
 <213> Nicotiana benthamiana

<400> 25	
ttcatctgga tcccgggctt aataacgctt acgtaggcg	39

<210> 26
 <211> 24
 <212> DNA
 <213> Pea Early Browning Virus

<400> 26	
gtcctaatacc ctagggattt aagg	24

<210> 27
 <211> 19
 <212> DNA
 <213> Pea Early Browning Virus

<400> 27	
cttttgaaat tgcagaaac	19

<210> 28
 <211> 19
 <212> DNA
 <213> Pea Early Browning Virus

<400> 28	
gtttctgcaa tttccaaag	19

<210> 29
 <211> 44
 <212> DNA
 <213> Pea Early Browning Virus

<400> 29
 gaattcggggg taccgcggcc gcgatatacct gcagggcgtt aact 44

 <210> 30
 <211> 45
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 30
 gaattcggta ccctgcagga tatcgcggcc gcggcggtta ctcgg 45

 <210> 31
 <211> 27
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 31
 aaggaaaaaa gcggccgcgg taccgccg 27

 <210> 32
 <211> 42
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 32
 cggatccccc gggtttaaac gggcgtaata acgcttacgt ag 42

 <210> 33
 <211> 35
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 33
 aaactgcagc tcgagctgat ttaacaaatt ttaac 35

 <210> 34
 <211> 42
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 34
 ttttcctttt gcggccgcgc acgtgtcagt cctgctctc gg 42

 <210> 35
 <211> 27
 <212> DNA
 <213> Pea Early Browning Virus

 <400> 35
 aaggaaaaaa gcggccgcgg taccgccg 27

 <210> 36
 <211> 83
 <212> DNA
 <213> Pea Early Browning Virus

<400> 36
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 acgggcgtaa taacgttacg tag 83

<210> 37
 <211> 36
 <212> DNA
 <213> Nicotiana benthamiana

<400> 37
 tggttctgca gttatgcatg ccccaaattg gacttg 36

<210> 38
 <211> 37
 <212> DNA
 <213> Nicotiana benthamiana

<400> 38
 ttttcctttt gcggccgcta aactacgctt gcttctg 37

<210> 39
 <211> 37
 <212> DNA
 <213> Nicotiana benthamiana

<400> 39
 cgataacctg caggatgccc caaattggac ttgtttc 37

<210> 40
 <211> 38
 <212> DNA
 <213> Nicotiana benthamiana

<400> 40
 tgtgtaatgg cggccgcaat atgtgcaacc cagtctcg 38

<210> 41
 <211> 38
 <212> DNA
 <213> Nicotiana benthamiana

<400> 41
 cgataacctg caggacagaa aactgaagaa cacatctg 38

<210> 42
 <211> 38
 <212> DNA
 <213> Nicotiana benthamiana

<400> 42
 tgtgtaatgg cggccgccta aactacgctt gcttctgc 38

<210> 43
 <211> 24
 <212> DNA
 <213> Nicotiana benthamiana

<400> 43
 aagttcttgc ttaagacg⁵tc atcg 24

 <210> 44
 <211> 47
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 44
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 <210> 45
 <211> 62
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 45
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 tg 62

 <210> 46
 <211> 22
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 46
 cggataacaa tttcacacag ga 22

 <210> 47
 <211> 24
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 47
 aagttcttgc ttaagacg⁵tc atcg 24

 <210> 48
 <211> 22
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 48
 cggataacaa tttcacacag ga 22

 <210> 49
 <211> 36
 <212> DNA
 <213> Nicotiana benthamiana

 <400> 49
 tggttctgca gttatgcatg ccccaaattg gacttg 36

 <210> 50
 <211> 37
 <212> DNA
 <213> Nicotiana benthamiana

<400> 50

ttttcctttt gcggccgcta aactacgctt gcttctg

37

<210> 51

<211> 14

<212> DNA

<213> *Nicotiana benthamiana*

<400> 51

tcgagcggcc gcat

14

<210> 52

<211> 773

<212> DNA

<213> *Arabidopsis thaliana*

<400> 52

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ctttttgcc	agaaggagat	gcgaattctg	atgggttggtc	ttgatgctgc	tggttaagacc	120
acaatcttgt	acaagctcaa	gctcggagag	attgtcacca	ccatccctac	tattggtttc	180
aatgtgga	ctgtggaata	caagaacatt	agtttcacog	tgtgggatgt	cgggggtcag	240
gacaagatcc	gtcccttg	agacactact	tccagaacac	tcaaggctta	atctttgttg	300
ttgatagcaa	tgacagagac	agagttgttg	aggctcgaga	tgaactccac	aggatgctga	360
atgaggacga	gctgcgtgat	gctgtgttgc	ttgtgtttgc	caacaagcaa	gatcttccaa	420
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attggtatat	ccagagcaca	tgtgccactt	caggtgaagg	gctttatgaa	ggtctggact	540
ggctctccaa	caacatcgct	ggcaaggcat	gatgagggag	aaattgcgtt	gcatcgagat	600
gattctgtct	gctgtgttgg	gatctctctc	tgtcttgatg	caagagagat	tataaatatt	660
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<210> 53

<211> 8

<212> PRT

<213> *Arabidopsis thaliana*

<400> 53

Gly Leu Asp Ala Ala Gly Lys Thr

1

5

<210> 54

<211> 5

<212> PRT

<213> *Arabidopsis thaliana*

<400> 54

Asp Val Gly Gly Gln

1

5

<210> 55

<211> 26

<212> DNA

<213> *Nicotiana benthamiana*

<400> 55

aagaaggaga tgcgaattct gatggt

26

<210> 56
<211> 26
<212> DNA
<213> *Nicotiana benthamiana*

<400> 56
atgttggttg agagccagtc cagacc

26

<210> 57
<211> 38
<212> DNA
<213> *N. tabacum*

<400> 57
tggttctgca gttatgcatg gcacagatta gcagcatg

38

<210> 58
<211> 41
<212> DNA
<213> *N. tabacum*

<400> 58
ggtaccaagc ttgcggccgc ttaatgcttg gagtactcct g

41